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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,302	11/14/2003	William Todorov	13560-001	8860
1059	7590	10/07/2005	EXAMINER	
BERESKIN AND PARR 40 KING STREET WEST BOX 401 TORONTO, ON M5H 3Y2 CANADA			POPE, DARYL C	
			ART UNIT	PAPER NUMBER
			2632	

DATE MAILED: 10/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/712,302	Applicant(s) TODOROV, WILLIAM	
	Examiner DARYL C. POPE	Art Unit 2632	

**– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-21 is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

ART REJECTION:

Claim Rejections - 35 USC § 103

2. **Claims 1-3, and 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoch in view of Weinbrenner.**

-- In considering **claim 1**, the claimed subject matter that is met by Hoch includes:

- 1) the rotatable object is met by the rotating bicycle wheel(110);
- 2) the display for displaying at least one display pattern is met by the one or more linear array(101);
- 3) the microprocessor being connected to the display device and the speed sensor and for controlling the display array based on the rotational speed of the object is met by the control circuit(200) of the array(101) which includes a microprocessor(see: column 2, lines 61-63), and thereby synchronizes images and patterns displayed by the array based on the speed of the wheel(see: column 3, lines 7-21).

- **Hoch does not show:**

- 1) the self contained rotational speed sensor and the sensor being entirely mounted on the rotatable object.

Although a self contained rotational speed sensor that is entirely mounted on the rotatable object is not shown by Hoch, an equivalent speed rotational

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speed sensor in the form of Hall-effect sensor(106,107) that allows determination of angular velocity of the wheel so as to provide signals to the microprocessor for controlling the display array(see: column 3, lines 8-15). Use of self contained rotational speed sensors mounted entirely on a rotatable object for purpose of providing angular velocity signals of a wheel is well known in the art.

In related art, Weinbrenner discloses rotation sensors for a vehicle system in which self contained gravimetric rotational wheel sensors(110) including rotational speed sensors mounted on a wheel of a vehicle are utilized to provide rotational speed signals to a processor of a vehicle without requiring a hard wired communication path to the vehicle processor(see: column 2, lines 5-16).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the sensors(110) of Weinbrenner in place of the Hall-effect sensors of Hoch, since one of ordinary skill in the art would have recognized the advantage of the wireless, features of the sensor of Weinbrenner, for the purpose of providing wheel speed sensors, since this would have reduces problems of signal integrity by alleviating wires or any other physical connection means that may become unstable due to exposure to environmental conditions.

-- With regards to **claim 2**, the sensor being a G-force sensor is met by the gravimetric rotational wheel sensors(110) as discussed above.

-- With regards to **claim 3**, the power source is met by the batteries of the control circuit(see: column 2, lines 61-63).

-- With regards to **claim 5**, the memory for storing at least one display pattern is met by the memory of the microprocessor(see: column 3, lines 64-67).

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-- With regards to **claim 6**, the receiver for receiving the at least one display pattern is met by the inherent receiving and processing circuitry means(not shown) of the microprocessor(202) of the master and slave display devices, which receive and control the at least one display pattern from the memory(210) as determined by the pushbutton switches of the master display device(see: column 3, lines 64 et seq; column 4, lines 1-55).

Claim Rejections - 35 USC § 102

3. Claims 8-10 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Johnson(6,030,106).

-- In considering **claim 8**, the claimed subject matter that is met by Johnson includes:

1) the rotatable object is met by the wheel assembly(10) including rim(30) and tire(40);

2) the display device for displaying at least one display pattern is met by the lamps(80);

3) the wireless receiver for receiving display timing information from a signal source spaced from the object is met by the wireless signal receiver(50) which receives signals from the remote control means(100) that determine blinking patterns for the lamps(see: column 3, lines 26-47).

-- With regards to **claim 9**, the power source is met by the portable power source(70).

-- With regards to **claim 10**, the power source being operable to generate power from movement of the rotatable object is met since power is provided to the

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system based on the electrical switch being in the actuated to the on position when the vehicular wheel is rotated(see: column 3, lines 20-26).

-- **Claim 12** recites subject matter that is met as discussed in claim 8 above, as well as:

1) the receiver being operable to receive the display pattern from a signal source off the rotatable object such that the pattern is received when the object is moving is met by the receiver(50) receiving the display pattern from the remote control means(100, column 3, lines 26-47).

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoch in view of Weinbrenner as applied to claim 6 above, and further in view of Johnson.

-- **Claim 7** recites subject matter that is met by Hoch in view of Weinbrenner as discussed in claim 1 above, except for:

1) the wireless receiver for receiving the at least one display pattern;
2) the signal source spaced from the rotatable object so as to receive the pattern while the rotatable object is moving.

Use of wireless receivers and spaced signal sources for receiving and displaying a pattern on a rotatable object is well known in the art. In related art, Johnson discloses a light display for a vehicular wheel which includes a wireless remote control device(100) which sends signals to a remote control receiver(50) while the wheel is moving, so as to display patterns on a vehicular wheel(see: column 3, lines 26-47).

Since the use of a remote control device and receiver for displaying patterns is well known as seen by Johnson, it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the wireless handheld control device(100) in place of the pushbutton switches(108) of Hoch, and as well, to incorporate the receiver(50) of Johnson into the circuitry(200) and in communication with the memory(20) and microprocessor(202) of Hoch, since this would have tremendously facilitated and enhanced the pattern display capabilities of Hoch in view of Weinbrenner by alleviating the necessity of stopping the movement of the wheel(110) of Hoch in order to change the desired display of the display devices.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoch in view of Weinbrenner as applied to claim 3 above, and further in view of Rezvani(5,552,972).

-- With regards to **claim 4**, although Hoch utilizes a batteries(201) to provide power to the display apparatus, use of other forms of power sources for providing power to a display on a rotating wheel are well known in the art. In related art, Rezvani discloses a self powered lighted wheel which includes a dynamo(26) that supplies current to illuminate illumination members(see: column 3, lines 65 et seq; column 4, lines 1-3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the dynamo(26) of Rezvani in place of the batteries(201) of Hoch since this would have reduced cost in the system by

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alleviating the necessity of constant battery replacement for the purpose of maintaining power for the display array.

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson in view of Hoch.

-- **Claim 11** recites subject matter that is met by Johnson as discussed in claim 9 above, except for:

1) the microprocessor for controlling the display device based on display timing information, that information being speed information of the rotatable object such that the display timing is calculated from the speed information.

Use of microprocessors for controlling display devices mounted on rotatable objects is well known in the art. In related art, Hoch discloses an electronic display apparatus mounted on a rotatable wheel, wherein the display apparatus is controlled by a microprocessor such that speed information of the wheel is utilized to calculate a display timing for the purpose of displaying light patterns on the wheel(see: column 3 lines 8-21; column 4 lines 21-38).

Since Johnson suggests implementation of any desired control circuitry into the current flow control means(52, column 3, lines 27-47), it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the microprocessor(202) of Hoch into the control means(52) of Johnson, since this would have provided an efficient and as well space conservative device for controlling the operation and display of the lamps as desired by an operator of the system of Johnson.

Allowable Subject Matter

7. Claims 13-21 are allowed.

REMARKS:

Response to Arguments

8. Applicant's arguments with respect to claims 13-21 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DARYL C. POPE whose telephone number is 571-272-2959. The examiner can normally be reached on M-TH 9:00-7:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DANIEL J. WU can be reached on 571-272-2964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

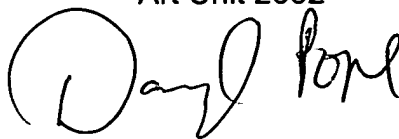
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Daryl C. Pope

Oct. 2, 2005

DARYL C POPE
Primary Examiner
Art Unit 2632

A handwritten signature in black ink, appearing to read "Daryl C. Pope". The signature is written in a cursive style with a large, circular initial "D".